

REMARKS

In the Office Action of May 16, 2003, the Examiner has rejected claims 6 and 9-11 under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1-9, 11 and 14-16 are rejected under 35 USC §102(b) as being anticipated by Taniguchi et al. Claims 1-3, 5-9, 12, and 14-15 are rejected under 35 USC §102(b) as being anticipated by Zhu. Also, claims 1, 2, 6, 8-12 and 14-16 are rejected under 35 USC §102(b) as being anticipated by Naruse et al. Claim 13 is rejected under 35 USC 103(a) as being unpatentable over Taniguchi et al, Zhu, or Naruse et al, any of which in view of Yang. Claim 17 is rejected under 35 USC 103(a) as being unpatentable over Taniguchi et al, Zhu, or Naruse et al, any of which in view of Yatake. Claim 4 is rejected under 35 USC 103(a) as being unpatentable over Zhu in view of Taniguchi et al. Finally, claim 16 is rejected under 35 USC 103(a) as being unpatentable over Zhu in view of Taniguchi et al.

The Office Action of May 16, 2003, has been carefully considered and by this amendment, entry of which is respectfully requested, claims 1-5, 7-8, and 10-17 remain in the application; claims 6 and 9 have been canceled; and claims 1, 10 and 11 have been amended. The amendments do not add new matter.

A claim, in order to pass muster under 35 USC §112, second paragraph, need only be clear to one skilled in the art, when read in light of the specification, so as to permit one skilled in the art to define the metes and bounds of the invention. In re Goffe, 188 USPQ 131, 135 (CCPA 1975). Therefore, §112, second paragraph, only requires applicant to set forth with sufficient particularity the invention so as to permit one skilled in the art to define the metes and bounds of the invention.

All of the comments of the Examiner have been noted and addressed by

amending or canceling claims. The remaining claims have been carefully reviewed to ensure conformance with 35 USC 112. Based on the amendments to the claims and the remarks herein, applicants submit that the remaining claims are in compliance with 35 USC §112.

Turning now to the rejection of claims 1-17 under 35 USC §102(b) and/or 35 USC §103(a), Applicant respectfully traverses these rejections for the reason that the cited art does not teach, anticipate, or render obvious the invention of Applicant, as now claimed.

The test for determining if a cited document anticipates a claim, for purposes of a rejection under 35 USC §102, is whether the cited document discloses all of the elements of the claimed combination, or the mechanical equivalents, functioning in substantially the same way to produce substantially the same results. As noted by the Court of Appeals of the Federal Circuit in Lindemann Maschinenfabrick GmbH v. American Hoist and Derrick, 221 USPQ 481, 485 (1984), in evaluating the sufficiency of an anticipation rejection under 35 USC §102:

"Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim."

Furthermore, it is noted in MPEP Section 706 that the standard of patentability to be followed in the examination of a patent application is that which was enunciated by the Supreme Court in Graham v. John Deere, 148 USPQ 459 (1966), where the Court stated:

"Under Section 103, the scope and the content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved."

In considering the Tanaguchi et al patent cited by the Examiner, it is respectfully submitted that the Taniguchi et al patent discloses an entirely different technology than that covered by the subject application. For example, at col. 2, beginning at line 26, it is stated that "In the ink composition of the present invention, the colorant is preferably present in a dispersed state." The way that is achieved, as shown in every example of Taniguchi, is by dissolving the colorant first in an organic solvent, then slowly adding the solution to an aqueous mixture, where the colorant is precipitated into fine particles the size of which are defined as 25 to 500 nm (see col. 2, line 39). Conversely, the ink composition *for a continuous ink jet printer*, such as is described and claimed in the subject application, must be such that the printer can tolerate it. However, the solvent printers to which the ink composition of the present invention can be applied, do not tolerate the presence of any particles in the ink. Hence, the solvent inks of the present invention are all in *complete* solutions. The ink of Tanaguchi et al is simply not usable in a continuous ink jet printer, as the subject application claims.

Another major difference between the subject application and the Tanaguchi et al patent is the choice in Tanaguchi et al of the water soluble organic solvent. At col. 6, beginning at line 58, it is stated that "... the water soluble organic solvent has a lower vapor pressure than water..." which means that the boiling point is higher than water ($>100^{\circ}\text{C}$). Tanaguchi et al went on to disclose the use of a penetration promoter, such as ethanol, acetone, or MEK, but then specifically notes beginning at col. 9, line 3, that "...such an (sic) water soluble organic solvent does not dissolve particles of the colorant in the ink composition...". Penetrants are used at less than 1% in inks; whereas in the subject application, the MEK is used as a *solvent*, not a penetrant, and so colorant particles *completely* dissolve in it. The Tanaguchi et al patent cannot possibly

anticipate or obviate the subject application, as the Tanaguchi et al patent does not disclose a solvent ink in a *complete* solution.

Turning now to the Zhu patent cited by the Examiner, Zhu discloses an *aqueous* ink jet composition. At col. 3, beginning at line 16, Zhu states "Water is used as the ink carrier for the aqueous jet ink composition of the present invention." Furthermore, the preferred colorant in the Zhu disclosure is carbon black pigment, as stated at col. 3, line 29, and as used in every Example of the Zhu patent. Although Zhu states that solvent dyes are suitable for use in the preparation of the ink composition, such dyes have little (less than 1%) or no solubility in water, and so does not disperse. Since Zhu states at col. 8, lines 42-50, that the boiling points of the solvent must be greater than 100° C, and preferably greater than 150° C, use of MEK or alcohol is actually *excluded*, as both boil at less than 80° C. So although Zhu mentions carbon black, it would have to be used as a dispersant or a pigment in the selected *aqueous* carrier, and not as a solvent dye. In the present application, the dye is completely soluble in the selected solvent to form a true solution. Therefore, Zhu cannot possibly anticipate or obviate the subject application.

The Naruse patent application cited by the Examiner is actually similar to the Tanaguchi et al patent, in that the ink is being formed by dispersing an oil-soluble dye in a water-based medium. This is accomplished, as disclosed on page 1, paragraph [0019], by dissolving the oil soluble dye in high boiling point solvent, then dispersing the solution in the water-based medium to form fine oil droplets having fine particle shape. On page 27, paragraph [0105], it is stated that it is "...possible to use the high boiling point organic solvent AND a low boiling point organic solvent." The low boiling point solvent is mentioned as possibly being MEK or alcohols. The last sentence in paragraph [0124] on page 28 states "The low boiling point solvent is preferably removed as early as possible after the emulsification." This means that the final inks of Naruse et al have no

MEK or alcohol. Consequently, Naruse et al cannot anticipate or obviate the ink composition of the subject application.

In considering all of the art cited by the Examiner, including Taniguchi et al, Zhu, Naruse et al, Yang, and Yatake, when taken singularly or in any combination, the present invention differs from the prior art in several major respects. First, MEK is used as a solvent in the subject application, where colorant particles completely dissolve in it. Second, the final ink composition of the subject application is a complete solution, and contains a mixture of denatured alcohol, MEK, and/or water. Third, the solvent dye is completely soluble in the volatile solvent. It is respectfully submitted, therefore, that independent claim 1 of the present invention cannot be anticipated or obviated by the cited art.

Claims 2-5, 7-8 and 10-17 depend from independent claim 1 to contain all of the limitations found therein. By this dependency, it is submitted that these claims are not anticipated, taught, or rendered obvious by the cited art for the reasons discussed above. It is respectfully submitted that all of the remaining claims of this application are therefore clearly allowable, which allowance is respectfully requested.

Applicants' attorney has reviewed the additional art cited by but not relied upon by the Examiner. That document does not teach, anticipate, or render obvious, when taken singularly or in combination, the invention of applicants disclosed in the subject application.

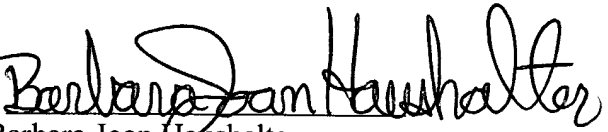
In view of the foregoing remarks, the undersigned attorney respectfully submits that all of the remaining claims of the application are clearly allowable. Therefore, Applicant's attorney respectfully requests that the Examiner's objections and rejections be withdrawn and that a formal Notice of Allowance be issued thereon.

If it is believed that an interview would serve to facilitate prosecution of the present application, the Examiner is requested to contact the undersigned attorney.

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Should the Examiner have any questions with respect to any matter now of record,
Applicants' attorney may be reached at (937) 592-8603.

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